AstroStart®

REMOTE CONTROL ENGINE STARTER

USER MANUAL

Models 903U & 701U



For all gas- and diesel-powered vehicles

(FRANÇAIS AU VERSO)

CONSULT SAFETY PRECAUTION SECTION BEFORE USING THIS PRODUCT.
SOME FEATURES MAY REQUIRE ADDITIONAL MATERIAL (NOT INCLUDED).

PATENT N^OS
CAN 2,105,426
USA 5,614,883 – 5,617,819 – 5,673,017 – 6,087,996
AND OTHER PATENTS PENDING

Manufactured in Canada by: Astroflex

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GOVERNMENT REGULATIONS

This device complies with the requirements of Industry Canada (IC) - Management of Radio Frequencies, as specified in document CNR-210. Its use is authorized only on a no-interference, no-protection basis; in other words, this device must not be used if it is determined that it causes harmful interference to services authorized by IC. In addition, the user of this device must accept any radio interference that may be received, even if this interference could affect the operation of the device.

This device complies with Part 15 of the FCC rules.

Operation is subject to the following two conditions:

(1) this device may not cause harmful interference and

(2) this device must accept interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television, which can be determined by turning the equipment OFF and ON, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the distance between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio / TV technician for help.

Warning:

Changes or modifications not expressly approved by <manufacturer> could void the user's authority to operate the equipment.

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THANK YOU FOR CHOOSING AN ASTROSTART REMOTE CAR STARTER!

Like you, Astroflex is concerned with the environment.
This is why we are suggesting that you use the two-minute runtime when you remote-start your vehicle to warm up engine fluids. Ask your dealer.

We take this opportunity to remind you to properly defrost your windows and remove all the snow on your vehicle before driving on public roads.

Rolling igloos are extremely dangerous!

We wish you an excellent journey with your remote engine starter!

USER GUIDE FOR REMOTE ENGINE STARTER MODEL 701U AND 903U

Model 701U is a remote control that offers the basic start functions including all the features required to achieve safe remote starting.

In addition to the starting functions, model 903U offers central locking features that allows you to control the door locks as well as releasing the trunk. These features are optional and may require additional material and connecting at time of installation.

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SAFETY PRECAUTIONS

Before using this product, carefully read the following safety precautions.

GENERAL RULES

- **Never perform a remote start** when a person or animal is inside the vehicle.
- **Do not allow** any person or animal to remain inside the vehicle when the engine is running under remote starter control (continuous mode).
- Immediately report any malfunction to the AstroStart dealer that performed the installation.
- **Under no circumstance can this product or its use be modified.**
- Always turn off the main switch when vehicle is parked in an enclosed, unventilated area or is in for servicing.
- Always turn off the main switch when not using your remote starter for extended periods of time.
- Keep remote controls **away from children**.
- Have your engine tuned regularly to ensure optimum performance of your remote starter.
- Make sure that the windshield wipers and the headlights are turned off before leaving vehicle.
- Regularly check safety features that stop engine (see SAFETY CHECKS on page 9.)
- Make sure you comply with all local regulations, which may prohibit leaving your engine running when vehicle is unattended in a public place.
- To ensure continued safe operation of your remote starter, ask your AstroStart dealer to periodically check and/or tune the remote starting system.
- Always advise service personnel that your vehicle is equipped with a remote starter.
- **We strongly recommend** that you have your remote starter checked annually. Contact a dealer in your area.
- **All users of the vehicle should be aware** of the safety precautions and operation procedures.
- Make sure that the warning sticker is present on the driver's window.

SPECIFIC RULES FOR MANUAL TRANSMISSION VEHICLES

- Make sure that the parking brake is operational, i.e. **it can prevent the vehicle from moving**.
- If the shift lever is accessible without having to open a door of the vehicle (for example, by entering via the liftgate or rear hatch) or in the case of a convertible vehicle, it is strongly recommended to have a motion detector (microwave) installed with the system. This device prevents the engine from starting should any activity be detected near the gearshift.

SAFETY SEQUENCE FOR MANUAL TRANSMISSION VEHICLES

Your remote starter was designed to force you to perform a series of actions that will ensure that the gearshift lever is in neutral position when you exit the vehicle.
This series of actions is called a "Safety sequence" and is aimed at preventing any remote start in situations where remote starting the engine would not be safe.
Should the hatchback or any door be opened at any time, the intrusion will be detected and the safety sequence will be cancelled by the system, thus preventing a remote start. In such cases, the sequence must be repeated to allow for an eventual remote start.
The system offers two execution modes for the sequence. These options must be set at time of installation. The first mode is initiated by the parking brake and the other by the remote control.
The safety sequence must be performed as follows.

SEQUENCE ACTIVATED BY THE PARKING BRAKE ☐.

1. While engine is running (key in ignition switch), apply the brakes and hold the pedal down.
2. Move gearshift lever to neutral.
3. Apply the parking brake ☐ Once ☐ Twice
   Note: The system can be set - at time of installation - to require that the parking brake be applied once or twice. If set for two actuations, pause one second between the two.
4. Remove key from ignition (the system keeps the engine running).
5. Exit the vehicle.
6. Within 60 seconds, close **all** doors.
7. The system will stop the engine and blink the parking brakes once to confirm the sequence is valid (vehicle is ready for a remote start command).

SEQUENCE ACTIVATED BY THE REMOTE CONTROL ☐

1. While engine is running (key in ignition switch), apply the brakes and hold the pedal down.
2. Move gearshift lever to neutral.
3. Apply parking brake.
4. Send the start command (Model 701U ● - Model 903U 🔑).
5. Remove key from ignition (the system keeps the engine running).
6. Exit the vehicle.
7. Using the remote, send the STOP command. The system will stop the engine and parking lights will blink once to confirm that the sequence is valid (vehicle is ready for a remote start command).

NOTES : If you release the brake pedal and depress it once more during or after the execution of the safety sequence, the safety sequence will be invalidated and any remote start will be impossible.

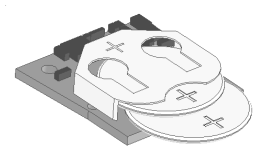
If the engine stops when the key is removed from the ignition, the safety sequence is invalid.
Perform a new safety sequence. If problem persists, consult your installer.

PREPARING SYSTEM

When you exit the vehicle, **you need to prepare** the remote starter for its next use.

- If the vehicle is equipped with a manual transmission, make sure that the remote starter system has detected a valid safety sequence.
- If the vehicle is equipped with an automatic transmission, make sure that the transmission lever is in the "**P**" position.
- Set heating/air conditioning controls to desired position (when the remote starter starts your engine, it will also turn on your climate control system).
- Turn your windshield wipers to the **OFF** position to avoid strain on the mechanism should a start command be sent to the vehicle when, for example, heavy snow immobilizes the wipers.
- Make sure that the headlights are turned off.
- Make sure that you do not leave your keys inside the vehicle.

THE REMOTE CONTROL



Your remote control works off two small 3 volts lithium batteries (CR2016).

See your dealer for replacement batteries or additional remote controls.

The range of your remote control can be affected by a weak battery, interference from nearby metal structures, hydro poles, or crowded parking lots.

With its electronic CODE LEARNING feature, up to four remote controls can be programmed for your vehicle.

USING YOUR REMOTE CONTROL

To ensure that commands are transmitted properly, press desired button for 2 seconds. A command will not be executed if you do not press button long enough.

Indicator light will flash while transmitting the command.

Model 903U: Your system can be configured (during installation) in such a way that the remote control will only access the starting function of your vehicle or it can access both the starting and door locking functions of the vehicle.

The keypad shows pictograms to help you remember the commands; use the keypad that corresponds to your system options.

You can replace the buttons (rubber keypad) of your remote control by an alternate keypad (ask your dealer).

Remote(s) included in kit may differ from the ones illustrated.

Model 701U   Model 903U



Option 1   Option 2

TABLE OF COMMANDS

COMMANDS		BUTTONS			CONFIRMATION	
		701U	903U			
	SELECTED OPTION ⇒		OPTION 1	OPTION 2	LIGHTS	HORN
701U	START / STOP (TOGGLE)	●			1 / 1	-
903U	STOP		⬢	🔑🔓	1	-
	START		🔑	🔑	1 / 1	1 ❶
	LOW TEMPERATURE MODE		🌡	🔑🔒	4 / 2 / 3 ❷	-
	PANIC (BUTTON HELD IN > 4 SEC.)		⬢ OR 🌡	🔒 OR 🔓	30 / 60 SEC.	
	TRUNK			🔒🔓	3	-
	UNLOCK			🔓	2	-
	LOCK			🔒	1	1 ❸

❶ THIS CONFIRMATION IS SENT ONLY WHEN COMMAND IS REPEATED WHILE ENGINE IS ALREADY RUNNING.
❷ 4 = ACTIVATION / 2 = DEACTIVATION / 3 = SYSTEM NOT READY
❸ PROGRAMMABLE DURING INSTALLATION – 2ND LOCK

Note: Make sure that the remote control is covered with the appropriate keypad, i.e. pictograms that correspond with the command options programmed to your system (See “ Using your remote control”).

CONFIRMATION

In all cases, your remote starter will confirm that a command has been received properly by flashing parking lights.

The horn provides certain confirmations when connected to system (requires optional wiring and material). In this manual, confirmation signals are written in an abbreviated form; for example: (lights: 2) means that parking lights will flash twice.

Confirmations are explained in more detail under each command.

START COMMANDS

START / STOP (701U)

The Start-Stop command is in fact the reason for being of your remote starter. It allows you to start or stop your vehicle without stepping outdoors. Press and hold the button down for at least two seconds.

UPON STARTING: The system automatically adjusts ignition duration for your type of vehicle; parking lights will flash once to confirm the reception of the command, then will stay ON for as long as the engine is running under remote control.

UPON STOPPING: The engine and parking lights will turn off.

The command is only applicable when engine is running under remote control.

START (903U)

To start the engine, press [key] button (lights: 1).

The system automatically adjusts ignition duration for your type of vehicle; parking lights flash once then stay on all the time engine is running.

If more than one command is emitted, each successive start command resets runtime to the beginning, parking lights flash once to confirm command has been received and horn sounds once if wired to system.

IF ENGINE FAILS TO START

If your system cannot start the engine at first attempt, it will wait for a few seconds and then try again. It could try again twice depending on reason for failure to start.

After three attempts, it will shut down automatically and wait for a new command.

UPON ENTERING YOUR VEHICLE...

Automatic transmission vehicle	Manual transmission vehicle
▪ To avoid turning the engine off when taking place behind the steering wheel, <u>do not apply the brakes</u> until you have placed the key in the ignition and turned it to the RUN position.	▪ To avoid turning the engine off when taking place behind the steering wheel, <u>do not apply the brakes and do not remove the parking brake</u> until you have placed the key in the ignition and turned it to the RUN position.

⚠ **DO NOT TURN IGNITION KEY TO START POSITION**

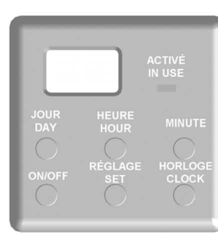
- Drive off as usual.

ENGINE RUNTIME

Your engine will stop automatically after a preset time of 2 min. ☐, 4 min. ☐, 8 min. ☐ or 18 min. ☐ depending on settings during installation. Runtime doubles for diesel engine vehicles.

Parking lights will stay on as long as engine is running.

TRIGGER INPUT



Your remote starter is equipped with a negative trigger (pulse) input.

This input can be connected to another remote control device or to an Astroflex RTS-2 timer output (optional), part no. 310-903-502.

If this input is connected, consult this device's manual or ask your technician which command controls the Start/Stop function.

The Start/Stop commands received on this input are ignored while the engine is running on a remote start.

All Start/Stop functions controlled by this input behave in the same way as functions controlled by remote.

CONTINUOUS MODE 🔑 | ●

The “Continuous Mode“ function allows to remove the key from the ignition while leaving the engine running. This convenient feature allows you to leave the vehicle for short periods of time while the climate controls remain on.

AUTOMATIC TRANSMISSION VEHICLES	To access Continuous Mode, send start command (Model 701U ● - Model 903U 🔑) while engine is idling. Parking lights, engine and preset accessories will remain on for the duration of the programmed runtime.
MANUAL TRANSMISSION VEHICLES	To access Continuous Mode, send start command (Model 701U ● - Model 903U 🔑) before removing the key from ignition when performing the safety sequence described on page 3. Note: Do not send the STOP command if you perform sequence activated by the remote control (Step 7).

Remove key, exit vehicle and lock doors. All safety devices will remain active.

If you return to your vehicle before runtime has elapsed, just turn the key to the RUN position and depress brake pedal.

WHAT STOPS THE ENGINE

For your safety, engine will not start or will stop if:

- ignition switch is in the RUN position (prevents starting);
- remote control sends a Stop message;
- hood is open;
- brakes are applied;
- engine is over-revving (programmable Enable/Disable at time of installation);
- main switch is **OFF**;
- safety sequence not valid (manual transmission vehicle only - parking brake not applied, opening of door detected while remote starter was not keeping engine running).

MAIN SWITCH

The main switch is usually mounted under the dashboard. It is a toggle **ON**/**OFF** switch that is used to cancel start functions.

It does not disable other commands which remain active (lock/unlock commands, etc.).



STOP (903U)

When engine is kept running by Remote Starter, you can stop it by pressing:

Option 1 • ⬢ button (lights: 1).

Option 2 • 🔑 and 🔓 simultaneously (lights: 1).

Engine and parking lights will shut down.

This command also terminates panic mode.

LOW TEMPERATURE MODE

(Model 903U only)

In Low Temperature (Sentinel) mode, system starts your engine automatically when temperature falls below a preset level (programmable during installation). See table. Factory default setting is shaded.

Low temperature level is set to ✓			
-5°C (23°F)		-20°C (-7°F)	
-15°C (5°F)		-30°C (-22°F)	

Engine will run for programmed runtime (see table), after which system will wait 2½ hours and then start engine again if temperature is still below preset level. Factory default setting is shaded.

Engine runtime (Low temp mode) is set to ✓			
2 minutes		8 minutes	
4 minutes		18 minutes	

To activate/deactivate Low Temperature mode:

Option 1 • press the 🌡 button

Option 2 • press 🔑 and 🔒 buttons simultaneously

When mode is activated:

Parking lights will flash 4 times, then, if temperature is below preset level, engine will start.

If temperature is above preset level, system waits until it goes below preset level before starting.

In the case of a manual transmission vehicle, the system must have detected a valid security sequence to allow the activation of Low Temperature mode. (see "Safety sequence for manual transmission vehicles" on page 3).

If system cannot execute command (for example, security sequence not valid, hood is open), confirmation will be different (lights: 3).

When mode is deactivated:

Parking lights will flash twice to confirm that mode is deactivated. Applying brakes also deactivates Low Temperature mode.

LOCK/UNLOCK COMMANDS (903U ONLY)

(Option 2 only)

If your vehicle is equipped with electric door locks, several functions can be operated by remote control.

These features are optional and may require purchasing additional equipment. Consult your dealer for advice.

Following systems can be controlled:

- Door locks.
- Trunk or hatchback release.
- Interior lights.

LOCK 🔒

Press the 🔒 button. Doors are locked and parking light flashes once to confirm command has been received.

Parking light confirmation is sent as many times as command is repeated so you are sure that system has received the command. Horn sounds once if option "Confirmation on 2nd lock" was set during installation.

UNLOCK

Press the button. Doors are unlocked and parking light flashes twice to confirm command has been received.

The “Unlock“ function can be programmed and connected in such a way that the first Unlock command only unlocks the driver's door, while a following Unlock command unlocks the other door(s).

Dome light will turn on for 30 seconds every time (optional connection during installation):

- Unlock command is sent.
- Engine is stopped (ignition switch).
- Continuous mode is activated.

This 30-second duration is cancelled when Lock command or Trunk command is sent, brakes are applied or key is inserted in ignition and turned to RUN position.

TRUNK RELEASE

Press the and buttons simultaneously (lights: 3). Trunk is released and parking lights flash three times to confirm command has been received.

The trunk cannot be released if ignition key is in RUN position. In this case, parking lights flash once to confirm that command has been received but trunk could not be released.

If you are not sure you have received confirmation, repeat command. System will repeat confirmation as often as you wish.

If your vehicle is equipped with a factory installed security system and that this system is neutralized by the trunk release command, remember to rearm it after trunk is closed ("Lock" command).

AUTOMATIC LOCK/UNLOCK

Programmable as **Active** or **Inactive** during installation.

This function locks the doors when ignition key is in RUN position, engine is running and brakes are applied. Doors are unlocked when key is turned from RUN to OFF or when Continuous Mode is activated.

If “Unlock“ function is set to unlock only driver's door on the first command, the “Automatic Unlock“ function will unlock driver's door only. If dome light is connected to system, it is activated when an automatic unlock occurs.

This function is : Active ☐ Inactive ☐.

ANTITHEFT (CIRCUIT DISABLER)

(Option 2 only)

Programmable as **Active** ☐ or **Inactive** ☐ during installation.

Your Remote Starter is equipped with an antitheft system. This system, when enabled, consists of an output that controls a relay that cuts all circuits required to operate your vehicle (optional connection).

There are two types of antitheft systems.

“PASSIVE ARMING” TYPE ANTITHEFT

This type of Antitheft system arms automatically when ignition key is turned from RUN to OFF and remains OFF for one minute. It can also be armed manually by sending a “Lock” command (unless ignition key is in RUN position).

DISARMING

Antitheft system is disarmed for one minute when you send “Unlock” command.

If the ignition key is not turned to RUN position within one minute, system automatically rearms, thus preventing any intruder from starting your vehicle, even with the key in the ignition switch.

“ACTIVE” TYPE ANTITHEFT

This type of Antitheft system arms by sending the “Lock” command (unless ignition key is in RUN position) and disarms by sending the "Unlock" command.

PANIC

(903U only)

Panic mode is used to attract attention if you are in difficulties.

This command will not be executed if engine is kept running by ignition key. Use the stop command to abort panic mode or depress brake pedal.

Press and hold, for at least 4 seconds, any of the ⬣, 🌡 (OPTION 1), 🔒 OR 🔓 (OPTION 2) buttons. This command activates **parking lights**, **horn**, and **dome light**, depending on which is connected to system, for 30 seconds ☐ or 60 seconds ☐ depending on programming during installation.

CODE LEARNING OF ADDITIONAL TRANSMITTER(S)

Four different remote controls can be programmed for a given vehicle. If a fifth remote is added, the first remote is deleted.

Note: When the first code learning command is sent, all the old codes are cleared out. Therefore if you want to add a new remote, all the old ones must be reprogrammed as well.

One or more remote transmitters can be added. To do this, programming is accessed as follows:

- Open hood.
- Insert key in the ignition and turn to the RUN position.
- Apply the brakes once.
- You now have 10 seconds to turn the key from RUN to the STOP position 3 times.
- If this sequence is correctly carried out, the control module flashes parking lights (4 flashes). You may then proceed to the next step.
- Press any button on the new remote control. When access code of new remote control is memorized, the control module will confirm with flashing parking lights (1 flash).
- Repeat the above procedures for each remote control that has to be programmed (up to 4 remotes).
- Apply the brakes.

New remote(s) is (are) now added to the system.

SAFETY CHECKS

In order to maintain a high safety standard, proceed with the following checks every month.

HOOD SWITCH

- Remote start your vehicle.
- Open hood.

Engine should stop as soon as hood is opened.

If engine does not stop immediately, turn main switch to **OFF** position **<u>and leave it off until situation is rectified.</u>** Contact your service centre.

GEARSHIFT CHECK APPLICABLE TO AUTOMATIC TRANSMISSION VEHICLES

If key must be in ignition for gearshift to be moved out of **P**, your vehicle is safe as long as keys are kept away from children.

If, on the other hand, gearshift can be put in gear without the key being in the ignition, proceed with this simple check.

- Put gearshift in gear (**D**).
- Remain in the vehicle and be ready to apply brakes.
- Start vehicle with remote starter.
- Repeat these steps with gearshift in every position other than **Park** and **Neutral**.

If starter reacts within 90 seconds (which would be abnormal), turn main switch to OFF position **and leave it off until situation is rectified**. Contact your service centre.

- With gearshift in **P**, start vehicle with remote starter.
- Remain in vehicle and **be ready to apply brakes**.
- **Without applying brakes**, move gearshift out of **P**.

If, without applying brakes, engine does not stop immediately (which would be abnormal), turn main switch to **OFF** position **and leave it off until situation is rectified.** Contact your service centre.

GEARSHIFT CHECK APPLICABLE TO MANUAL TRANSMISSION VEHICLES

Make sure the parking brake is operational, i.e. it has the capability of **immobilizing** the vehicle.
If the parking brake cannot stop the wheels from turning, which is not safe, place the main switch in "**OFF**" **position until the situation is rectified**.

DETECTION OF PARKING BRAKE STATUS

1. Carry out the safety sequence, then remote start the engine to confirm the safety sequence is valid. Make sure not to apply the brakes.
2. Release the parking brake.

The engine must stop immediately upon releasing the parking brake. If the engine does not stop, which is not safe, place the main switch in "**OFF**" **position until the situation is rectified**. Consult your service centre.

DETECTION OF DOOR OPENING

Make sure that the opening of **each** door (open one by one) will break safety sequence.

1. Carry out the safety sequence, then remote start the engine to confirm the safety sequence is valid.
2. Stop the engine using the remote control. Make sure you do not apply the brakes and that the parking brake remains applied until step 4.
3. Open then close **only one door** once the engine has stopped.
4. Try to start the engine using the remote control.

The engine should not be able to be remote started.

Repeat this test **for every door** of the vehicle (**including hatchback** if applicable).

If the vehicle is equipped with fold-down rear seat backrests, the trunk has to be considered as a door since it is an opening that can give access to the passenger compartment. It **must** therefore be included in the safety sequence.

If the engine starts, which is not safe, place the main switch in "**OFF**" **position until the situation is rectified.** Consult your service centre.

REPLACING OR BOOSTING VEHICLE BATTERY

If you have to replace or boost your battery for any reason, turn main switch to **OFF** position **and leave it OFF until battery is replaced or fully charged.**

REVERSING POLARITY WHEN BOOSTING YOUR BATTERY COULD PERMANENTLY DAMAGE YOUR REMOTE STARTER.